

Species Habitat Model Report:

Least Tern

Sternula antillarum

Gap Analysis Program Species Code: **bLETEx**

Integrated Taxonomic Information System TSN: **824127**

NatureServe Global Element ID: **2.101508**

Model ID (extent, year, version): **CONUS_2001v1**

Model Editor: **Mason, Bruce & Girard, Inc.**

Model Reviewer: **Matt Rubino**

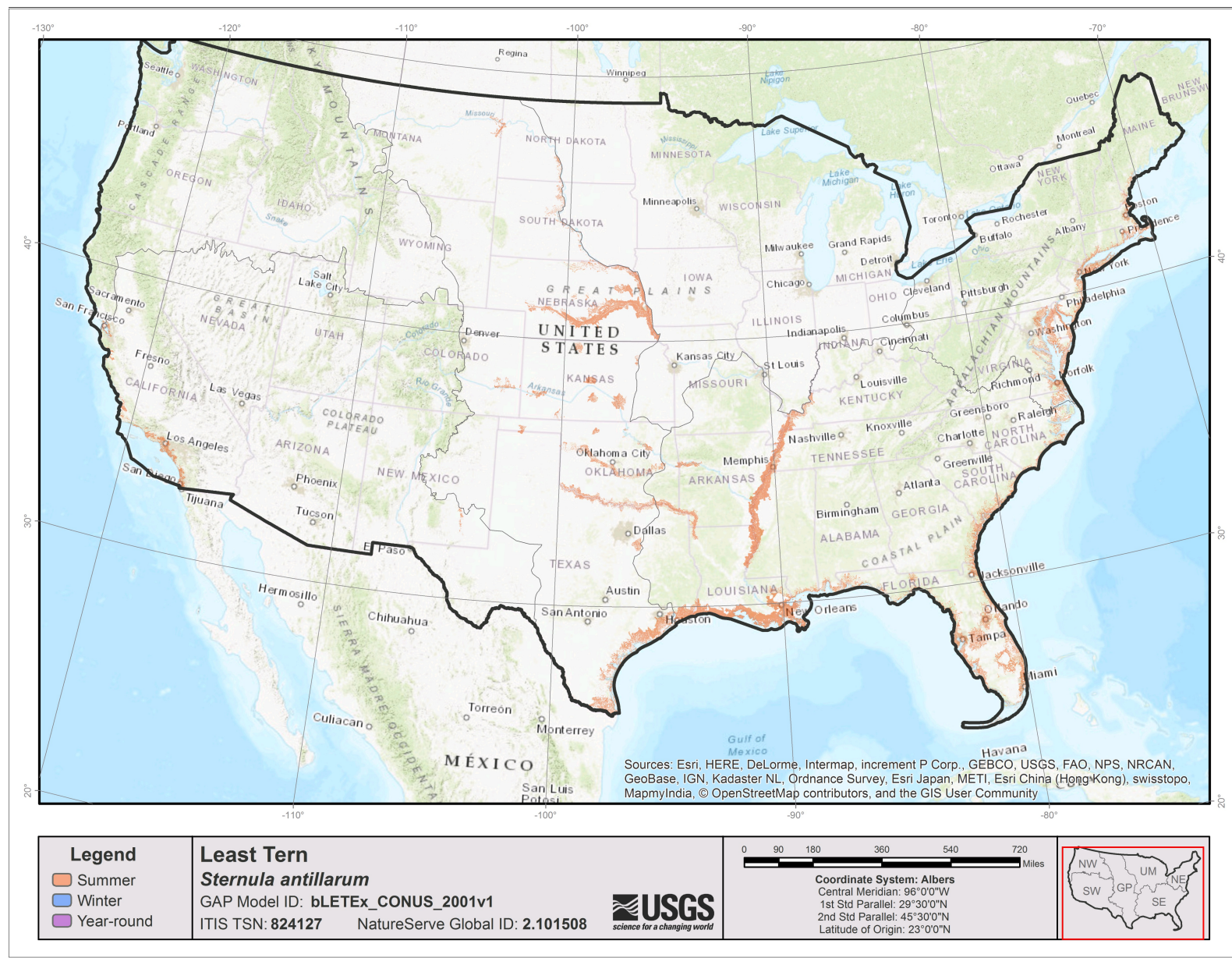
DOI Data Link: <https://doi.org/10.5066/F71R6NVV>

Date Report Generated: **October 29, 2017**

Species Habitat Model Report: Least Tern

Sternula antillarum

Map of Predicted Habitat



Species Habitat Model Report: Least Tern

Sternula antillarum

Habitat Modeling: Model Parameters

Season	Summer				
Region*	GP	NE	NW	SE	SW
Landcover Limitations					
Contiguous Patch					
Minimum Size (ha)					
Edge Type Usage					
Ecotone Width (m)					
Forest Interior Usage					
Distance From Edge (m)					
Secondary Map Units					
Distance From Primary Map Units (m)					
Hydrographic Limitations					
Flowing Water	Yes	Yes	Yes	Yes	Yes
Distance Into (m)	250	250	250	250	250
Distance From (m)	1000	1000	1000	1000	1000
Open/Standing Water	Yes	Yes	Yes	Yes	Yes
Distance Into (m)	250	250	250	250	250
Distance From (m)	1000	1000	1000	1000	1000
Wet Vegetation	Yes	Yes	Yes	Yes	Yes
Distance Into (m)					
Distance From (m)	0	0	0	0	0
Water Salinity	All Types	All Types	All Types	All Types	All Types
Water Velocity	Slow Only	Slow Only	Slow Only	Slow Only	Slow Only
Human Impact Avoidance					
Elevation Limit - Minimum (m)					
Elevation Limit - Maximum (m)					
Hand Modeled					

*GP = Great Plains; NE = Northeast; NW = Northwest; SE = Southeast; SW = Southwest; UM = Upper Midwest

More information regarding modeling process: <https://gapanalysis.usgs.gov/species/data/>

Species Habitat Model Report: *Least Tern* *Sternula antillarum*

Habitat Modeling: Map Units

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
1201 - Developed, Open Space	1	1	1	1	1
1202 - Developed, Low Intensity	1	1	1	1	1
1203 - Developed, Medium Intensity	1	1	1	1	1
1204 - Developed, High Intensity	0	0	0	0	0
1301 - Quarries, Mines, Gravel Pits and Oil Wells	1	1	1	1	1
1401 - Orchards Vineyards and Other High Structure Agriculture	0	0	0	0	0
1402 - Cultivated Cropland	1	1	1	1	1
1403 - Pasture/Hay	1	1	1	1	1
2102 - Open Water (Fresh)	1	1	1	1	1
2103 - Open Water (Brackish/Salt)	1	1	1	1	1
2104 - Open Water (Aquaculture)	0	0	0	0	0
3105 - Barren Land	1	1	1	1	1
3106 - Atlantic Coastal Plain Northern Sandy Beach	0	1	0	0	0
3107 - Atlantic Coastal Plain Southern Beach	0	1	0	1	0
3108 - Unconsolidated Shore (Lake/River/Pond)	0	0	0	1	0
3109 - Unconsolidated Shore (Beach/Dune)	0	0	0	1	0
3110 - Unconsolidated Shore	0	1	1	1	0
3111 - North American Warm Desert Active and Stabilized Dune	0	0	0	0	0
3112 - Northern Atlantic Coastal Plain Sandy Beach	0	0	0	0	0
3113 - Upper Texas Coast Beach	1	0	0	1	0
3114 - Louisiana Beach	0	0	0	0	0
3115 - Southeast Florida Beach	0	0	0	1	0
3116 - Great Lakes Dune	0	0	0	0	0
3117 - South Florida Shell Hash Beach	0	0	0	1	0
3118 - Florida Panhandle Beach Vegetation	0	0	0	1	0
3119 - Atlantic Coastal Plain Sea Island Beach	0	1	0	1	0
3120 - Southwest Florida Beach	0	0	0	1	0
3121 - Inter-Mountain Basins Active and Stabilized Dune	0	0	0	0	0
3122 - Mediterranean California Southern Coastal Dune	0	0	0	0	1
3123 - Mediterranean California Northern Coastal Dune	0	0	1	0	1

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
3124 - North Pacific Maritime Coastal Sand Dune and Strand	0	0	0	0	0
3125 - Texas Coastal Bend Beach	1	0	0	1	1
3201 - North American Warm Desert Bedrock Cliff and Outcrop	0	0	0	0	0
3202 - Rocky Mountain Cliff, Canyon and Massive Bedrock	0	0	0	0	0
3203 - Western Great Plains Cliff and Outcrop	0	0	0	0	0
3204 - Great Lakes Acidic Rocky Shore and Cliff	0	0	0	0	0
3205 - Central Interior Calcareous Cliff and Talus	0	0	0	0	0
3206 - Central Interior Acidic Cliff and Talus	0	0	0	0	0
3207 - North-Central Appalachian Circumneutral Cliff and Talus	0	0	0	0	0
3208 - North-Central Appalachian Acidic Cliff and Talus	0	0	0	0	0
3209 - North Pacific Montane Massive Bedrock, Cliff and Talus	0	0	0	0	0
3210 - Southern Piedmont Cliff	0	0	0	0	0
3211 - North Pacific Coastal Cliff and Bluff	0	0	0	0	0
3212 - Southern California Coast Ranges Cliff and Canyon	0	0	0	0	0
3213 - Central California Coast Ranges Cliff and Canyon	0	0	0	0	0
3214 - Klamath-Siskiyou Cliff and Outcrop	0	0	0	0	0
3215 - Sierra Nevada Cliff and Canyon	0	0	0	0	0
3216 - Inter-Mountain Basins Cliff and Canyon	0	0	0	0	0
3217 - Southwestern Great Plains Canyon	0	0	0	0	0
3218 - Colorado Plateau Mixed Bedrock Canyon and Tableland	0	0	0	0	0
3219 - Southern Interior Acid Cliff	0	0	0	0	0
3220 - Southern Appalachian Montane Cliff	0	0	0	0	0
3221 - Southern Interior Calcareous Cliff	0	0	0	0	0
3301 - Western Great Plains Badland	0	0	0	0	0
3302 - East Gulf Coastal Plain Dry Chalk Bluff	0	0	0	0	0
3303 - North American Warm Desert Badland	0	0	0	0	0
3304 - Inter-Mountain Basins Shale Badland	0	0	0	0	0
3305 - Mediterranean California Coastal Bluff	0	0	0	0	0
3306 - Columbia Plateau Ash and Tuff Badland	0	0	0	0	0
3401 - Temperate Pacific Intertidal Mudflat	0	0	1	0	0
3402 - Temperate Pacific Freshwater Mudflat	0	0	1	0	1
3403 - Inter-Mountain Basins Wash	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
3404 - North Pacific Serpentine Barren	0	0	0	0	0
3405 - North American Warm Desert Playa	0	0	0	0	0
3406 - Mediterranean California Serpentine Barrens	0	0	0	0	0
3407 - Inter-Mountain Basins Playa	0	0	0	0	0
3501 - North Pacific Alpine and Subalpine Bedrock and Scree	0	0	0	0	0
3502 - North American Alpine Ice Field	0	0	0	0	0
3503 - Rocky Mountain Alpine Bedrock and Scree	0	0	0	0	0
3504 - Mediterranean California Alpine Bedrock and Scree	0	0	0	0	0
3506 - Southern Appalachian Rocky Summit	0	0	0	0	0
3601 - Geysers and Hot Springs	0	0	0	0	0
3602 - Southern Appalachian Granitic Dome	0	0	0	0	0
3603 - Inter-Mountain Basins Volcanic Rock and Cinder Land	0	0	0	0	0
3604 - North Pacific Volcanic Rock and Cinder Land	0	0	0	0	0
3605 - North American Warm Desert Pavement	0	0	0	0	0
3606 - Southern Piedmont Granite Flatrock	0	0	0	0	0
3607 - North American Warm Desert Volcanic Rockland	0	0	0	0	0
4101 - Central and Southern Appalachian Northern Hardwood Forest	0	0	0	0	0
4102 - East Gulf Coastal Plain Limestone Forest	0	0	0	0	0
4103 - East Gulf Coastal Plain Northern Loess Plain Oak-Hickory Upland - Hardwood Modifier	0	0	0	0	0
4104 - Northeastern Interior Dry Oak Forest-Hardwood Modifier	0	0	0	0	0
4105 - East Gulf Coastal Plain Northern Loess Plain Oak-Hickory Upland - Juniper Modifier	0	0	0	0	0
4106 - Northeastern Interior Dry Oak Forest - Mixed Modifier	0	0	0	0	0
4107 - Ridge and Valley Calcareous Valley Bottom Glade and Woodland	0	0	0	0	0
4108 - East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Herbaceous Modifier	0	0	0	0	0
4109 - Southern and Central Appalachian Oak Forest - Xeric	0	0	0	0	0
4110 - North Pacific Oak Woodland	0	0	0	0	0
4111 - Rocky Mountain Aspen Forest and Woodland	0	0	0	0	0
4112 - Rocky Mountain Bigtooth Maple Ravine Woodland	0	0	0	0	0
4113 - Laurentian-Acadian Northern Hardwoods Forest	0	0	0	0	0
4114 - Northeastern Interior Dry-Mesic Oak Forest	0	0	0	0	0
4115 - Ozark-Ouachita Dry-Mesic Oak Forest	0	0	0	0	0
4116 - Southern Interior Low Plateau Dry-Mesic Oak Forest	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
4117 - East Gulf Coastal Plain Northern Dry Upland Hardwood Forest	0	0	0	0	0
4118 - Crosstimbers Oak Forest and Woodland	0	0	0	0	0
4119 - Southern Appalachian Northern Hardwood Forest	0	0	0	0	0
4120 - North-Central Interior Dry-Mesic Oak Forest and Woodland	0	0	0	0	0
4121 - North-Central Interior Dry Oak Forest and Woodland	0	0	0	0	0
4122 - Ouachita Montane Oak Forest	0	0	0	0	0
4123 - North-Central Interior Beech-Maple Forest	0	0	0	0	0
4124 - North-Central Interior Maple-Basswood Forest	0	0	0	0	0
4125 - Southern and Central Appalachian Oak Forest	0	0	0	0	0
4126 - Allegheny-Cumberland Dry Oak Forest and Woodland - Hardwood	0	0	0	0	0
4127 - Central and Southern Appalachian Montane Oak Forest	0	0	0	0	0
4128 - East Gulf Coastal Plain Northern Loess Bluff Forest	0	0	0	0	0
4129 - East Gulf Coastal Plain Southern Loess Bluff Forest	0	0	0	0	0
4130 - Southern Coastal Plain Dry Upland Hardwood Forest	0	0	0	0	0
4131 - Eastern Great Plains Tallgrass Aspen Parkland	0	0	0	0	0
4132 - South Florida Hardwood Hammock	0	0	0	0	0
4133 - Atlantic Coastal Plain Dry and Dry-Mesic Oak Forest	0	0	0	0	0
4134 - Southwest Florida Coastal Strand and Maritime Hammock	0	0	0	0	0
4135 - Southeast Florida Coastal Strand and Maritime Hammock	0	0	0	0	0
4136 - Central and South Texas Coastal Fringe Forest and Woodland	0	0	0	0	0
4137 - West Gulf Coastal Plain Chenier and Upper Texas Coastal Fringe Forest and Woodland	0	0	0	0	0
4138 - Northwestern Great Plains Aspen Forest and Parkland	0	0	0	0	0
4139 - Mississippi River Alluvial Plain Dry-Mesic Loess Slope Forest	0	0	0	0	0
4140 - East-Central Texas Plains Post Oak Savanna and Woodland	0	0	0	0	0
4141 - East-Central Texas Plains Riparian Forest	0	0	0	0	0
4142 - East-Central Texas Plains Floodplain Forest	0	0	0	0	0
4143 - Madrean Encinal	0	0	0	0	0
4144 - Mediterranean California Mixed Oak Woodland	0	0	0	0	0
4145 - South Florida Pine Rockland	0	0	0	0	0
4146 - Southern Coastal Plain Oak Dome and Hammock	0	0	0	0	0
4147 - Inter-Mountain Basins Curl-leaf Mountain Mahogany Woodland and Shrubland	0	0	0	0	0
4148 - North Pacific Broadleaf Landslide Forest and Shrubland	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
4149 - Ozark-Ouachita Dry Oak Woodland	0	0	0	0	0
4150 - East Gulf Coastal Plain Maritime Forest	0	0	0	0	0
4151 - Lower Mississippi River Dune Woodland and Forest	0	0	0	0	0
4152 - Edwards Plateau Limestone Savanna and Woodland	0	0	0	0	0
4153 - Mississippi Delta Maritime Forest	0	0	0	0	0
4154 - Western Great Plains Wooded Draw and Ravine	0	0	0	0	0
4155 - Edwards Plateau Dry-Mesic Slope Forest and Woodland	0	0	0	0	0
4201 - Boreal Aspen-Birch Forest	0	0	0	0	0
4202 - Southern Piedmont Mesic Forest	0	0	0	0	0
4203 - Southern Crowley's Ridge Mesic Loess Slope Forest	0	0	0	0	0
4204 - West Gulf Coastal Plain Mesic Hardwood Forest	0	0	0	0	0
4205 - East Gulf Coastal Plain Northern Mesic Hardwood Forest	0	0	0	0	0
4206 - South-Central Interior / Upper Coastal Plain Flatwoods	0	0	0	0	0
4207 - Ozark-Ouachita Mesic Hardwood Forest	0	0	0	0	0
4208 - Edwards Plateau Mesic Canyon	0	0	0	0	0
4209 - East Gulf Coastal Plain Southern Mesic Slope Forest	0	0	0	0	0
4210 - Atlantic Coastal Plain Central Maritime Forest	0	0	0	0	0
4211 - Atlantic Coastal Plain Northern Maritime Forest	0	0	0	0	0
4212 - Atlantic Coastal Plain Southern Maritime Forest	0	0	0	0	0
4301 - East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Hardwood Modifier	0	0	0	0	0
4302 - Southern Piedmont Dry Oak-(Pine) Forest - Hardwood Modifier	0	0	0	0	0
4303 - East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Woodland Modifier	0	0	0	0	0
4304 - Northeastern Interior Dry Oak Forest - Virginia/Pitch Pine Modifier	0	0	0	0	0
4305 - Southern Piedmont Dry Oak-(Pine) Forest - Loblolly Pine Modifier	0	0	0	0	0
4306 - East Gulf Coastal Plain Northern Dry Upland Hardwood Forest - Offsite Pine Modifier	0	0	0	0	0
4307 - Allegheny-Cumberland Dry Oak Forest and Woodland - Pine Modifier	0	0	0	0	0
4308 - Southern Ridge and Valley Dry Calcareous Forest - Pine modifier	0	0	0	0	0
4309 - East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Mixed Modifier	0	0	0	0	0
4310 - Southern Piedmont Dry Oak-(Pine) Forest - Mixed Modifier	0	0	0	0	0
4311 - Southern Piedmont Dry Oak-Heath Forest - Mixed Modifier	0	0	0	0	0
4312 - Western Great Plains Dry Bur Oak Forest and Woodland	0	0	0	0	0
4313 - Northern Atlantic Coastal Plain Dry Hardwood Forest	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
4314 - Appalachian Shale Barrens	0	0	0	0	0
4315 - Madrean Pine-Oak Forest and Woodland	0	0	0	0	0
4316 - Madrean Upper Montane Conifer-Oak Forest and Woodland	0	0	0	0	0
4317 - Mediterranean California Lower Montane Black Oak-Conifer Forest and Woodland	0	0	0	0	0
4318 - Mediterranean California Red Fir Forest	0	0	0	0	0
4319 - North Pacific Dry Douglas-fir-(Madrone) Forest and Woodland	0	0	0	0	0
4320 - Mediterranean California Mixed Evergreen Forest	0	0	0	0	0
4321 - West Gulf Coastal Plain Upland Longleaf Pine Forest and Woodland	0	0	0	0	0
4322 - Southeastern Interior Longleaf Pine Woodland	0	0	0	0	0
4323 - Laurentian-Acadian Northern Pine-(Oak) Forest	0	0	0	0	0
4324 - Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland	0	0	0	0	0
4325 - Central Interior Highlands Dry Acidic Glade and Barrens	0	0	0	0	0
4326 - Boreal White Spruce-Fir-Hardwood Forest	0	0	0	0	0
4327 - Laurentian-Acadian Pine-Hemlock-Hardwood Forest	0	0	0	0	0
4328 - Ozark-Ouachita Shortleaf Pine-Oak Forest and Woodland	0	0	0	0	0
4329 - Southern Piedmont Dry Oak-(Pine) Forest	0	0	0	0	0
4330 - Central Appalachian Oak and Pine Forest	0	0	0	0	0
4331 - Appalachian Hemlock-Hardwood Forest	0	0	0	0	0
4332 - West Gulf Coastal Plain Pine-Hardwood Forest	0	0	0	0	0
4333 - Acadian Low-Elevation Spruce-Fir-Hardwood Forest	0	0	0	0	0
4334 - Southern Ridge and Valley Dry Calcareous Forest	0	0	0	0	0
4335 - Central Appalachian Pine-Oak Rocky Woodland	0	0	0	0	0
4336 - West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest and Woodland	0	0	0	0	0
4337 - Northern Crowley's Ridge Sand Forest	0	0	0	0	0
4338 - North Pacific Lowland Mixed Hardwood-Conifer Forest and Woodland	0	0	0	0	0
4401 - Southern and Central Appalachian Cove Forest	0	0	0	0	0
4402 - South-Central Interior Mesophytic Forest	0	0	0	0	0
4403 - Atlantic Coastal Plain Mesic Hardwood and Mixed Forest	0	0	0	0	0
4404 - Mediterranean California Mesic Serpentine Woodland and Chaparral	0	0	0	0	0
4501 - East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Offsite Hardwood Modifier	0	0	0	0	0
4502 - Florida Longleaf Pine Sandhill - Open Understory Modifier	0	0	0	0	0
4503 - Florida Longleaf Pine Sandhill - Scrub/Shrub Understory Modifier	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
4504 - Atlantic Coastal Plain Fall-Line Sandhills Longleaf Pine Woodland - Loblolly Modifier	0	0	0	0	0
4505 - Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Open Understory Modifier	0	0	0	0	0
4506 - Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Scrub/Shrub Understory Modifier	0	0	0	0	0
4507 - East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Loblolly Modifier	0	0	0	0	0
4508 - East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Open Understory Modifier	0	0	0	0	0
4509 - East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Scrub/Shrub Modifier	0	0	0	0	0
4510 - Northern Rocky Mountain Western Larch Savanna	0	0	0	0	0
4511 - Central and Southern California Mixed Evergreen Woodland	0	0	0	0	0
4512 - Colorado Plateau Pinyon-Juniper Woodland	0	0	0	0	0
4513 - Columbia Plateau Western Juniper Woodland and Savanna	0	0	0	0	0
4514 - Great Basin Pinyon-Juniper Woodland	0	0	0	0	0
4515 - Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland	0	0	0	0	0
4516 - Klamath-Siskiyou Lower Montane Serpentine Mixed Conifer Woodland	0	0	0	0	0
4517 - Klamath-Siskiyou Upper Montane Serpentine Mixed Conifer Woodland	0	0	0	0	0
4518 - Madrean Pinyon-Juniper Woodland	0	0	0	0	0
4519 - Mediterranean California Dry-Mesic Mixed Conifer Forest and Woodland	0	0	0	0	0
4520 - California Montane Jeffrey Pine-(Ponderosa Pine) Woodland	0	0	0	0	0
4521 - Mediterranean California Subalpine Woodland	0	0	0	0	0
4522 - North Pacific Maritime Dry-Mesic Douglas-fir-Western Hemlock Forest	0	0	0	0	0
4523 - North Pacific Mountain Hemlock Forest	0	0	0	0	0
4524 - Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	0	0	0	0	0
4525 - Northern Rocky Mountain Subalpine Woodland and Parkland	0	0	0	0	0
4526 - Rocky Mountain Foothill Limber Pine-Juniper Woodland	0	0	0	0	0
4527 - Rocky Mountain Lodgepole Pine Forest	0	0	0	0	0
4528 - Southern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland	0	0	0	0	0
4529 - Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	0	0	0	0	0
4530 - Southern Rocky Mountain Ponderosa Pine Woodland	0	0	0	0	0
4531 - Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	0	0	0	0	0
4532 - Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland	0	0	0	0	0
4533 - Sierra Nevada Subalpine Lodgepole Pine Forest and Woodland	0	0	0	0	0
4534 - Southern Rocky Mountain Pinyon-Juniper Woodland	0	0	0	0	0
4535 - Boreal Jack Pine-Black Spruce Forest	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
4536 - Atlantic Coastal Plain Upland Longleaf Pine Woodland	0	0	0	0	0
4537 - Southern Appalachian Montane Pine Forest and Woodland	0	0	0	0	0
4538 - Southern Appalachian Low Mountain Pine Forest	0	0	0	0	0
4539 - Northeastern Interior Pine Barrens	0	0	0	0	0
4540 - Northern Atlantic Coastal Plain Pitch Pine Barrens	0	0	0	0	0
4541 - East-Central Texas Plains Pine Forest and Woodland	0	0	0	0	0
4542 - Laurentian Jack Pine-Red Pine Forest	0	0	0	0	0
4543 - Middle Rocky Mountain Montane Douglas-fir Forest and Woodland	0	0	0	0	0
4544 - Rocky Mountain Poor-Site Lodgepole Pine Forest	0	0	0	0	0
4545 - California Coastal Closed-Cone Conifer Forest and Woodland	0	0	0	0	0
4546 - Sierran-Intermontane Desert Western White Pine-White Fir Woodland	0	0	0	0	0
4547 - North Pacific Dry-Mesic Silver Fir-Western Hemlock-Douglas-fir Forest	0	0	0	0	0
4548 - Northwestern Great Plains - Black Hills Ponderosa Pine Woodland and Savanna	0	0	0	0	0
4549 - Ozark-Ouachita Shortleaf Pine-Bluestem Woodland	0	0	0	0	0
4550 - East Cascades Oak-Ponderosa Pine Forest and Woodland	0	0	0	0	0
4551 - Acadian-Appalachian Montane Spruce-Fir Forest	0	0	0	0	0
4552 - North Pacific Wooded Volcanic Flowage	0	0	0	0	0
4553 - Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Offsite Hardwood Modifier	0	0	0	0	0
4601 - California Coastal Redwood Forest	0	0	0	0	0
4602 - East Cascades Mesic Montane Mixed-Conifer Forest and Woodland	0	0	0	0	0
4603 - Mediterranean California Mesic Mixed Conifer Forest and Woodland	0	0	0	0	0
4604 - North Pacific Hypermaritime Sitka Spruce Forest	0	0	0	0	0
4605 - North Pacific Maritime Mesic Subalpine Parkland	0	0	0	0	0
4606 - North Pacific Maritime Mesic-Wet Douglas-fir-Western Hemlock Forest	0	0	0	0	0
4607 - North Pacific Mesic Western Hemlock-Silver Fir Forest	0	0	0	0	0
4608 - Northern California Mesic Subalpine Woodland	0	0	0	0	0
4609 - Northern Rocky Mountain Mesic Montane Mixed Conifer Forest	0	0	0	0	0
4610 - Southern Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland	0	0	0	0	0
4611 - Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland	0	0	0	0	0
4612 - Central and Southern Appalachian Spruce-Fir Forest	0	0	0	0	0
4613 - North Pacific Hypermaritime Western Red-cedar-Western Hemlock Forest	0	0	0	0	0
5101 - Mediterranean California Alpine Fell-Field	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
5102 - North Pacific Dry and Mesic Alpine Dwarf-Shrubland, Fell-field and Meadow	0	0	0	0	0
5103 - Rocky Mountain Alpine Dwarf-Shrubland	0	0	0	0	0
5104 - Rocky Mountain Alpine Tundra/Fell-field/Dwarf-shrub	0	0	0	0	0
5105 - Acadian-Appalachian Alpine Tundra	0	0	0	0	0
5106 - North Pacific Avalanche Chute Shrubland	0	0	0	0	0
5107 - Acadian-Appalachian Subalpine Woodland and Heath-Krummholz	0	0	0	0	0
5108 - Northern Rocky Mountain Avalanche Chute Shrubland	0	0	0	0	0
5201 - Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub	0	0	0	0	0
5202 - Chihuahuan Mixed Salt Desert Scrub	0	0	0	0	0
5203 - Chihuahuan Stabilized Coppice Dune and Sand Flat Scrub	0	0	0	0	0
5204 - Chihuahuan Succulent Desert Scrub	0	0	0	0	0
5205 - Inter-Mountain Basins Mixed Salt Desert Scrub	0	0	0	0	0
5206 - Mojave Mid-Elevation Mixed Desert Scrub	0	0	0	0	0
5207 - Sonora-Mojave Creosotebush-White Bursage Desert Scrub	0	0	0	0	0
5208 - Sonora-Mojave Mixed Salt Desert Scrub	0	0	0	0	0
5209 - Sonoran Mid-Elevation Desert Scrub	0	0	0	0	0
5210 - Southern California Coastal Scrub	0	0	0	0	0
5211 - Apacherian-Chihuahuan Mesquite Upland Scrub	0	0	0	0	0
5212 - Chihuahuan Mixed Desert and Thorn Scrub	0	0	0	0	0
5213 - Sonoran Paloverde-Mixed Cacti Desert Scrub	0	0	0	0	0
5214 - Florida Peninsula Inland Scrub	0	0	0	0	0
5215 - Tamaulipan Mixed Deciduous Thornscrub	0	0	0	0	0
5216 - Tamaulipan Mesquite Upland Scrub	0	0	0	0	0
5217 - Tamaulipan Calcareous Thornscrub	0	0	0	0	0
5218 - Northern California Coastal Scrub	0	0	0	0	0
5301 - Western Great Plains Sandhill Steppe	0	0	0	0	0
5302 - Northern Rocky Mountain Foothill Conifer Wooded Steppe	0	0	0	0	0
5303 - Apacherian-Chihuahuan Semi-Desert Grassland and Steppe	0	0	0	0	0
5304 - Chihuahuan Gypsophilous Grassland and Steppe	0	0	0	0	0
5305 - Columbia Plateau Steppe and Grassland	0	0	0	0	0
5306 - Columbia Plateau Low Sagebrush Steppe	0	0	0	0	0
5307 - Inter-Mountain Basins Big Sagebrush Steppe	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
5308 - Inter-Mountain Basins Montane Sagebrush Steppe	0	0	0	0	0
5309 - Inter-Mountain Basins Semi-Desert Shrub Steppe	0	0	0	0	0
5401 - California Maritime Chaparral	0	0	0	0	0
5402 - California Mesic Chaparral	0	0	0	0	0
5403 - California Montane Woodland and Chaparral	0	0	0	0	0
5404 - California Xeric Serpentine Chaparral	0	0	0	0	0
5405 - Madrean Oriental Chaparral	0	0	0	0	0
5406 - Great Basin Semi-Desert Chaparral	0	0	0	0	0
5407 - Mogollon Chaparral	0	0	0	0	0
5408 - Northern and Central California Dry-Mesic Chaparral	0	0	0	0	0
5409 - Sonora-Mojave Semi-Desert Chaparral	0	0	0	0	0
5410 - Southern California Dry-Mesic Chaparral	0	0	0	0	0
5411 - Coahuilan Chaparral	0	0	0	0	0
5501 - California Central Valley Mixed Oak Savanna	0	0	0	0	0
5502 - California Coastal Live Oak Woodland and Savanna	0	0	0	0	0
5503 - California Lower Montane Blue Oak-Foothill Pine Woodland and Savanna	0	0	0	0	0
5504 - Southern California Oak Woodland and Savanna	0	0	0	0	0
5505 - Willamette Valley Upland Prairie and Savanna	0	0	0	0	0
5506 - North-Central Interior Oak Savanna	0	0	0	0	0
5507 - North-Central Oak Barrens	0	0	0	0	0
5508 - Southern Piedmont Glade and Barrens	0	0	0	0	0
5509 - Nashville Basin Limestone Glade	0	0	0	0	0
5510 - Cumberland Sandstone Glade and Barrens	0	0	0	0	0
5511 - Central Appalachian Alkaline Glade and Woodland	0	0	0	0	0
5512 - Central Interior Highlands Calcareous Glade and Barrens	0	0	0	0	0
5513 - West Gulf Coastal Plain Catahoula Barrens	0	0	0	0	0
5514 - West Gulf Coastal Plain Nepheline Syenite Glade	0	0	0	0	0
5515 - Laurentian Pine-Oak Barrens	0	0	0	0	0
5516 - Klamath-Siskiyou Xeromorphic Serpentine Savanna and Chaparral	0	0	0	0	0
5517 - Paleozoic Plateau Bluff and Talus	0	0	0	0	0
5601 - Colorado Plateau Pinyon-Juniper Shrubland	0	0	0	0	0
5602 - Atlantic Coastal Plain Xeric River Dune	0	0	0	1	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
5603 - Inter-Mountain Basins Juniper Savanna	0	0	0	0	0
5604 - Madrean Juniper Savanna	0	0	0	0	0
5605 - Southern Rocky Mountain Ponderosa Pine Savanna	0	0	0	0	0
5606 - Southern Rocky Mountain Juniper Woodland and Savanna	0	0	0	0	0
5607 - Great Lakes Alvar	0	0	0	0	0
5701 - Colorado Plateau Mixed Low Sagebrush Shrubland	0	0	0	0	0
5702 - Columbia Plateau Scabland Shrubland	0	0	0	0	0
5703 - Inter-Mountain Basins Mat Saltbush Shrubland	0	0	0	0	0
5704 - Wyoming Basins Dwarf Sagebrush Shrubland and Steppe	0	0	0	0	0
5705 - Great Basin Xeric Mixed Sagebrush Shrubland	0	0	0	0	0
5706 - Inter-Mountain Basins Big Sagebrush Shrubland	0	0	0	0	0
5707 - Southern Colorado Plateau Sand Shrubland	0	0	0	0	0
5801 - Southern Appalachian Grass and Shrub Bald - Shrub Modifier	0	0	0	0	0
5802 - Southern Appalachian Grass and Shrub Bald - Herbaceous Modifier	0	0	0	0	0
5803 - Colorado Plateau Blackbrush-Mormon-tea Shrubland	0	0	0	0	0
5804 - North Pacific Montane Shrubland	0	0	0	0	0
5805 - Northwestern Great Plains Shrubland	0	0	0	0	0
5806 - Rocky Mountain Lower Montane-Foothill Shrubland	0	0	0	0	0
5807 - Northern Atlantic Coastal Plain Heathland and Grassland	0	0	0	0	0
5808 - Northern Rocky Mountain Montane-Foothill Deciduous Shrubland	0	0	0	0	0
5809 - Rocky Mountain Gambel Oak-Mixed Montane Shrubland	0	0	0	0	0
5810 - Western Great Plains Mesquite Woodland and Shrubland	0	0	0	0	0
5811 - Edwards Plateau Limestone Shrubland	0	0	0	0	0
5812 - Northern Rocky Mountain Subalpine Deciduous Shrubland	0	0	0	0	0
7101 - Mediterranean California Alpine Dry Tundra	0	0	0	0	0
7102 - Rocky Mountain Alpine Fell-Field	0	0	0	0	0
7103 - Rocky Mountain Dry Tundra	0	0	0	0	0
7104 - North Pacific Alpine and Subalpine Dry Grassland	0	0	0	0	0
7201 - Mediterranean California Subalpine Meadow	0	0	0	0	0
7202 - North Pacific Montane Grassland	0	0	0	0	0
7203 - Northern Rocky Mountain Lower Montane, Foothill and Valley Grassland	0	0	0	0	0
7204 - Northern Rocky Mountain Subalpine-Upper Montane Grassland	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
7205 - Rocky Mountain Subalpine-Montane Mesic Meadow	0	0	0	0	0
7206 - Southern Rocky Mountain Montane-Subalpine Grassland	0	0	0	0	0
7301 - Eastern Highland Rim Prairie and Barrens - Dry Modifier	0	0	0	0	0
7302 - Central Mixedgrass Prairie	0	0	0	0	0
7303 - Chihuahuan Sandy Plains Semi-Desert Grassland	0	0	0	0	0
7304 - Columbia Basin Foothill and Canyon Dry Grassland	0	0	0	0	0
7305 - Inter-Mountain Basins Semi-Desert Grassland	0	0	0	0	0
7306 - Northwestern Great Plains Mixedgrass Prairie	0	0	0	0	0
7307 - Columbia Basin Palouse Prairie	0	0	0	0	0
7308 - Western Great Plains Foothill and Piedmont Grassland	0	0	0	0	0
7309 - Western Great Plains Sand Prairie	0	0	0	0	0
7310 - Western Great Plains Shortgrass Prairie	0	0	0	0	0
7311 - Western Great Plains Tallgrass Prairie	0	0	0	0	0
7312 - North-Central Interior Sand and Gravel Tallgrass Prairie	0	0	0	0	0
7313 - Arkansas Valley Prairie and Woodland	0	0	0	0	0
7314 - Northern Tallgrass Prairie	0	0	0	0	0
7315 - Central Tallgrass Prairie	0	0	0	0	0
7316 - Southern Blackland Tallgrass Prairie	0	0	0	0	0
7317 - Southeastern Great Plains Tallgrass Prairie	0	0	0	0	0
7318 - Florida Dry Prairie	0	0	0	0	0
7319 - West Gulf Coastal Plain Northern Calcareous Prairie	0	0	0	0	0
7320 - West Gulf Coastal Plain Southern Calcareous Prairie	0	0	0	0	0
7321 - East Gulf Coastal Plain Jackson Prairie and Woodland	0	0	0	0	0
7322 - Tamaulipan Savanna Grassland	0	0	0	0	0
7323 - Tamaulipan Clay Grassland	0	0	0	0	0
7324 - South Texas Sand Sheet Grassland	0	0	0	0	0
7326 - Chihuahuan Loamy Plains Desert Grassland	0	0	0	0	0
7401 - California Mesic Serpentine Grassland	0	0	0	0	0
7402 - Great Lakes Wet-Mesic Lakeplain Prairie	0	0	0	0	0
7501 - California Central Valley and Southern Coastal Grassland	0	0	0	0	0
7502 - California Northern Coastal Grassland	0	0	0	0	0
7503 - Atlantic Coastal Plain Southern Dune and Maritime Grassland	0	1	0	1	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
7504 - Southwest Florida Dune and Coastal Grassland	0	0	0	1	0
7505 - Texas-Louisiana Coastal Prairie	0	0	0	0	0
7506 - East Gulf Coastal Plain Dune and Coastal Grassland	0	0	0	1	0
7507 - Northern Atlantic Coastal Plain Dune and Swale	0	1	0	0	0
7508 - Central and Upper Texas Coast Dune and Coastal Grassland	0	0	0	0	0
7509 - South Texas Lomas	0	0	0	0	0
7510 - South Texas Dune and Coastal Grassland	0	0	0	0	0
7601 - Southern Appalachian Grass and Shrub Bald	0	0	0	0	0
7602 - Llano Uplift Acidic Forest, Woodland and Glade	0	0	0	0	0
7603 - North Pacific Hypermaritime Shrub and Herbaceous Headland	0	0	0	0	0
7604 - North Pacific Herbaceous Bald and Bluff	0	0	0	0	0
8101 - Recently Logged Areas	0	0	0	0	0
8102 - Disturbed/Successional - Shrub Regeneration	0	0	0	0	0
8103 - Disturbed/Successional - Grass/Forb Regeneration	0	0	0	0	0
8104 - Utility Swath - Herbaceous	0	0	0	0	0
8105 - Successional Shrub/Scrub (Other)	0	0	0	0	0
8106 - Harvested Forest - Northwestern Conifer Regeneration	0	0	0	0	0
8107 - Harvested Forest - Shrub Regeneration	0	0	0	0	0
8108 - Harvested Forest - Grass/Forb Regeneration	0	0	0	0	0
8201 - Deciduous Plantation	0	0	0	0	0
8202 - Evergreen Plantation or Managed Pine	0	0	0	0	0
8203 - Managed Tree Plantation	0	0	0	0	0
8301 - Recently Burned	1	0	1	0	1
8302 - Recently Burned Forest	0	0	0	0	0
8303 - Recently Burned Grassland	1	0	1	1	1
8304 - Recently Burned Shrubland	0	0	0	0	0
8401 - Introduced Upland Vegetation - Treed	0	0	0	0	0
8402 - Introduced Upland Vegetation - Shrub	0	0	0	0	0
8403 - Introduced Upland Vegetation - Forbland	0	0	0	0	0
8404 - Introduced Upland Vegetation - Annual Grassland	0	0	0	0	0
8405 - Introduced Upland Vegetation - Perennial Grassland	0	0	0	0	0
8406 - Introduced Riparian and Wetland Vegetation	0	0	0	0	0

Species Habitat Model Report: Least Tern

Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
8407 - Introduced Upland Vegetation - Perennial Grassland and Forbland	0	0	0	0	0
8408 - Modified/Managed Southern Tall Grassland	0	0	0	0	0
8501 - Disturbed, Non-specific	1	1	1	1	1
8502 - Recently Chained Pinyon-Juniper Areas	0	0	0	0	0
8503 - Ruderal Upland - Old Field	0	0	0	0	0
8504 - Ruderal Wetland	0	0	0	0	0
9101 - Acadian Salt Marsh and Estuary Systems	0	1	0	0	0
9102 - North Pacific Maritime Eelgrass Bed	0	0	0	0	0
9103 - Atlantic Coastal Plain Central Salt and Brackish Tidal Marsh	0	0	0	1	0
9104 - Atlantic Coastal Plain Indian River Lagoon Tidal Marsh	0	0	0	1	0
9105 - Atlantic Coastal Plain Embayed Region Tidal Salt and Brackish Marsh	0	1	0	1	0
9106 - Mississippi Sound Salt and Brackish Tidal Marsh	0	0	0	1	0
9107 - Mediterranean California Eelgrass Bed	0	0	0	0	0
9108 - Temperate Pacific Tidal Salt and Brackish Marsh	0	0	1	0	1
9109 - Atlantic Coastal Plain Northern Tidal Salt Marsh	0	1	0	1	0
9110 - Florida Big Bend Salt-Brackish Tidal Marsh	0	0	0	1	0
9201 - Southern Coastal Plain Nonriverine Basin Swamp - Okefenokee Taxodium Modifier	0	0	0	0	0
9202 - Southern Coastal Plain Nonriverine Basin Swamp - Okefenokee Bay/Gum Modifier	0	0	0	0	0
9203 - Southern Coastal Plain Nonriverine Basin Swamp - Okefenokee Pine Modifier	0	0	0	0	0
9204 - Southern Coastal Plain Nonriverine Basin Swamp - Okefenokee Nupea Modifier	0	0	0	0	0
9205 - Southern Coastal Plain Nonriverine Basin Swamp - Okefenokee Clethra Modifier	0	0	0	0	0
9206 - Atlantic Coastal Plain Clay-Based Carolina Bay Herbaceous Wetland	0	0	0	0	0
9207 - Atlantic Coastal Plain Peatland Pocosin	0	0	0	0	0
9208 - Southern Coastal Plain Seepage Swamp and Baygall	0	0	0	0	0
9209 - West Gulf Coastal Plain Seepage Swamp and Baygall	0	0	0	0	0
9210 - East Gulf Coastal Plain Tidal Wooded Swamp	0	0	0	0	0
9211 - Atlantic Coastal Plain Streamhead Seepage Swamp - Pocosin - and Baygall	0	0	0	0	0
9212 - Central Interior and Appalachian Swamp Systems	0	0	0	0	0
9213 - Gulf and Atlantic Coastal Plain Swamp Systems	0	0	0	0	0
9214 - Laurentian-Acadian Swamp Systems	0	0	0	0	0
9215 - Atlantic Coastal Plain Large Natural Lakeshore	0	0	0	0	0
9216 - North Pacific Shrub Swamp	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
9218 - Atlantic Coastal Plain Southern Tidal Wooded Swamp	0	0	0	0	0
9219 - South Florida Everglades Sawgrass Marsh	0	0	0	0	0
9220 - Gulf and Atlantic Coastal Plain Tidal Marsh Systems	1	1	0	1	0
9221 - Great Lakes Coastal Marsh Systems	0	0	0	0	0
9222 - Central Interior and Appalachian Shrub-Herbaceous Wetland Systems	0	0	0	0	0
9223 - Floridian Highlands Freshwater Marsh	0	0	0	1	0
9224 - Laurentian-Acadian Shrub-Herbaceous Wetland Systems	0	0	0	0	0
9225 - Temperate Pacific Freshwater Aquatic Bed	0	0	1	0	0
9226 - North Pacific Intertidal Freshwater Wetland	0	0	0	0	0
9227 - North American Arid West Emergent Marsh	0	0	0	0	0
9228 - Temperate Pacific Freshwater Emergent Marsh	0	0	1	0	1
9229 - Great Lakes Freshwater Estuary and Delta	0	0	0	0	0
9230 - Atlantic Coastal Plain Embayed Region Tidal Freshwater Marsh	0	1	0	1	0
9231 - Central Florida Herbaceous Seep	0	0	0	0	0
9232 - Florida Big Bend Fresh-Oligohaline Tidal Marsh	0	0	0	1	0
9233 - Atlantic Coastal Plain Northern Fresh and Oligohaline Tidal Marsh	0	1	0	1	0
9234 - Northern Great Lakes Coastal Marsh	0	0	0	0	0
9235 - Atlantic Coastal Plain Northern Tidal Wooded Swamp	0	0	0	0	0
9236 - South Florida Mangrove Swamp	0	0	0	0	0
9237 - West Gulf Coastal Plain Near-Coast Large River Swamp	0	0	0	0	0
9238 - South Florida Bayhead Swamp	0	0	0	0	0
9239 - Southern Coastal Plain Nonriverine Basin Swamp	0	0	0	0	0
9240 - Northern Atlantic Coastal Plain Basin Swamp and Wet Hardwood Forest	0	0	0	0	0
9241 - Southern Coastal Plain Herbaceous Seepage Bog	0	0	0	0	0
9242 - Laurentian-Acadian Freshwater Marsh	0	0	0	0	0
9243 - Atlantic Coastal Plain Central Fresh-Oligohaline Tidal Marsh	0	0	0	1	0
9301 - Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest - Taxodium/Nyssa Modifier	0	0	0	0	0
9302 - Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest - Oak Dominated Modifier	0	0	0	0	0
9303 - Atlantic Coastal Plain Clay-Based Carolina Bay Forested Wetland	0	0	0	0	0
9304 - Northern Rocky Mountain Conifer Swamp	0	0	0	0	0
9305 - South Florida Dwarf Cypress Savanna	0	0	0	0	0
9306 - North Pacific Hardwood-Conifer Swamp	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
9307 - Northern Pacific Mesic Subalpine Woodland	0	0	0	0	0
9308 - Laurentian-Acadian Alkaline Conifer-Hardwood Swamp	0	0	0	0	0
9401 - Atlantic and Gulf Coastal Plain Interdunal Wetland	0	0	0	1	0
9402 - Great Lakes Wooded Dune and Swale	0	0	0	0	0
9403 - Inter-Mountain Basins Interdunal Swale Wetland	0	0	0	0	0
9501 - Boreal Acidic Peatland Systems	0	0	0	0	0
9502 - North Pacific Bog and Fen	0	0	0	0	0
9503 - Rocky Mountain Subalpine-Montane Fen	0	0	0	0	0
9504 - Mediterranean California Subalpine-Montane Fen	0	0	0	0	0
9505 - Mediterranean California Serpentine Fen	0	0	0	0	0
9506 - Southern and Central Appalachian Bog and Fen	0	0	0	0	0
9601 - Northern Atlantic Coastal Plain Pitch Pine Lowland	0	0	0	0	0
9602 - South Florida Wet Marl Prairie	0	0	0	0	0
9603 - East Gulf Coastal Plain Savanna and Wet Prairie	0	0	0	0	0
9604 - Texas Saline Coastal Prairie	0	0	0	0	0
9605 - Eastern Great Plains Wet Meadow, Prairie, and Marsh	0	0	0	0	0
9606 - Rocky Mountain Alpine-Montane Wet Meadow	0	0	0	0	0
9607 - Willamette Valley Wet Prairie	0	0	0	0	0
9608 - Temperate Pacific Montane Wet Meadow	0	0	0	0	0
9609 - Columbia Plateau Silver Sagebrush Seasonally Flooded Shrub-Steppe	0	0	0	0	0
9610 - Chihuahuan-Sonoran Desert Bottomland and Swale Grassland	0	0	0	0	0
9701 - Lower Mississippi River Bottomland Depressions - Forest Modifier	0	0	0	0	0
9702 - South Florida Cypress Dome	0	0	0	0	0
9703 - Southern Coastal Plain Nonriverine Cypress Dome	0	0	0	0	0
9704 - Northern Rocky Mountain Wooded Vernal Pool	0	0	0	0	0
9705 - Great Plains Prairie Pothole	0	0	0	0	0
9706 - Western Great Plains Depressional Wetland Systems	0	0	0	0	0
9707 - Western Great Plains Open Freshwater Depression Wetland	0	0	0	0	0
9708 - Columbia Plateau Vernal Pool	0	0	0	0	0
9709 - Northern California Claypan Vernal Pool	0	0	0	0	0
9710 - Western Great Plains Closed Depression Wetland	0	0	0	0	0
9711 - Western Great Plains Saline Depression Wetland	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
9712 - Central Florida Herbaceous Pondshore	0	0	0	0	0
9713 - East Gulf Coastal Plain Southern Depression Pondshore	0	0	0	0	0
9714 - Inter-Mountain Basins Alkaline Closed Depression	0	0	0	0	0
9715 - Southern Piedmont/Ridge and Valley Upland Depression Swamp	0	0	0	0	0
9716 - Atlantic Coastal Plain Depression Pondshore	0	0	0	0	0
9717 - Mississippi River Bottomland Depression	0	0	0	0	0
9718 - South Florida Freshwater Slough and Gator Hole	0	0	0	0	0
9801 - Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest Modifier	0	0	0	0	0
9802 - Central Appalachian Floodplain - Forest Modifier	0	0	0	0	0
9803 - Central Appalachian Riparian - Forest Modifier	0	0	0	0	0
9804 - East Gulf Coastal Plain Large River Floodplain Forest - Forest Modifier	0	0	0	0	0
9805 - South-Central Interior Large Floodplain - Forest Modifier	0	0	0	0	0
9806 - Southern Piedmont Large Floodplain Forest - Forest Modifier	0	0	0	0	0
9807 - East Gulf Coastal Plain Large River Floodplain Forest - Herbaceous Modifier	0	0	0	0	0
9808 - South-Central Interior Large Floodplain - Herbaceous Modifier	0	0	0	0	0
9809 - California Central Valley Riparian Woodland and Shrubland	0	0	0	0	0
9810 - Inter-Mountain Basins Greasewood Flat	0	0	0	0	0
9811 - North Pacific Lowland Riparian Forest and Shrubland	0	0	0	0	0
9812 - North Pacific Montane Riparian Woodland and Shrubland	0	0	0	0	0
9813 - Rocky Mountain Montane Riparian Systems	0	0	0	0	0
9814 - Western Great Plains Floodplain Systems	1	0	0	1	1
9815 - Eastern Boreal Floodplain	0	0	0	0	0
9816 - Tamaulipan Floodplain	0	0	0	0	0
9817 - Eastern Great Plains Floodplain Systems	1	0	0	1	0
9818 - Central Interior and Appalachian Floodplain Systems	0	0	0	0	0
9819 - Central Interior and Appalachian Riparian Systems	0	0	0	0	0
9820 - Laurentian-Acadian Floodplain Systems	0	0	0	0	0
9821 - Tamaulipan Riparian Systems	0	0	0	0	0
9822 - North American Warm Desert Wash	0	0	0	0	0
9823 - Western Great Plains Floodplain	1	0	1	0	1
9824 - Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	0	0	0	0	0
9825 - Rocky Mountain Lower Montane Riparian Woodland and Shrubland	0	0	0	0	0

Species Habitat Model Report:

Least Tern
Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
9826 - Northwestern Great Plains Floodplain	1	0	1	0	0
9827 - Mississippi River Riparian Forest	0	0	0	0	0
9828 - Cumberland Riverscour	0	0	0	0	0
9829 - Edwards Plateau Riparian	0	0	0	0	0
9830 - Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	0	0	0	0	0
9831 - Columbia Basin Foothill Riparian Woodland and Shrubland	0	0	0	0	0
9832 - Rocky Mountain Subalpine-Montane Riparian Woodland	0	0	0	0	0
9833 - North American Warm Desert Lower Montane Riparian Woodland and Shrubland	0	0	0	0	0
9834 - North American Warm Desert Riparian Mesquite Bosque	0	0	0	0	0
9835 - North American Warm Desert Riparian Woodland and Shrubland	0	0	0	0	0
9836 - Mississippi River Low Floodplain (Bottomland) Forest	0	0	0	0	0
9837 - Rocky Mountain Subalpine-Montane Riparian Shrubland	0	0	0	0	0
9838 - Southern Coastal Plain Hydric Hammock	0	0	0	0	0
9839 - West Gulf Coastal Plain Small Stream and River Forest	0	0	0	0	0
9840 - West Gulf Coastal Plain Large River Floodplain Forest	0	0	0	0	0
9841 - Southern Piedmont Small Floodplain and Riparian Forest	0	0	0	0	0
9842 - Atlantic Coastal Plain Small Brownwater River Floodplain Forest	0	0	0	0	0
9843 - Atlantic Coastal Plain Small Blackwater River Floodplain Forest	0	0	0	0	0
9844 - Red River Large Floodplain Forest	0	0	0	0	0
9845 - Atlantic Coastal Plain Brownwater Stream Floodplain Forest	0	0	0	0	0
9846 - Mediterranean California Serpentine Foothill and Lower Montane Riparian Woodland and Seep	0	0	0	0	0
9847 - Northwestern Great Plains Riparian	1	0	1	0	1
9848 - Western Great Plains Riparian Woodland and Shrubland	0	0	0	0	0
9849 - Mediterranean California Foothill and Lower Montane Riparian Woodland	0	0	0	0	0
9850 - South-Central Interior Small Stream and Riparian	0	0	0	0	0
9851 - East Gulf Coastal Plain Small Stream and River Floodplain Forest	0	0	0	0	0
9852 - Southern Coastal Plain Blackwater River Floodplain Forest	0	0	0	0	0
9853 - Texas-Louisiana Coastal Prairie Slough	0	0	0	0	0
9854 - Mississippi River Floodplain and Riparian Forest	0	0	0	0	0
9855 - Inter-Mountain Basins Montane Riparian Systems	0	0	0	0	0
9856 - North American Warm Desert Riparian Systems	0	0	0	0	0
9857 - South-Central Interior Large Floodplain	0	0	0	0	0

Species Habitat Model Report: Least Tern

Sternula antillarum

Season	Summer				
Region*	GP	NE	NW	SE	SW
Map Unit					
9858 - Ozark-Ouachita Riparian	0	0	0	0	0
9901 - East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Open Understory Modifier	0	0	0	0	0
9902 - East Gulf Coastal Plain Near-Coast Pine Flatwoods - Offsite Hardwood Modifier	0	0	0	0	0
9903 - East Gulf Coastal Plain Near-Coast Pine Flatwoods - Open Understory Modifier	0	0	0	0	0
9904 - East Gulf Coastal Plain Near-Coast Pine Flatwoods - Scrub/Shrub Understory Modifier	0	0	0	0	0
9905 - South Florida Pine Flatwoods	0	0	0	0	0
9906 - Central Atlantic Coastal Plain Wet Longleaf Pine Savanna and Flatwoods	0	0	0	0	0
9907 - Atlantic Coastal Plain Southern Wet Pine Savanna and Flatwoods	0	0	0	0	0
9908 - West Gulf Coastal Plain Wet Longleaf Pine Savanna and Flatwoods	0	0	0	0	0
9909 - Central Florida Pine Flatwoods	0	0	0	0	0
9910 - East Gulf Coastal Plain Near-Coast Pine Flatwoods	0	0	0	0	0
9911 - East Gulf Coastal Plain Southern Loblolly-Hardwood Flatwoods	0	0	0	0	0
9912 - South-Central Interior / Upper Coastal Plain Wet Flatwoods	0	0	0	0	0
9913 - West Gulf Coastal Plain Pine-Hardwood Flatwoods	0	0	0	0	0
9914 - North-Central Interior Wet Flatwoods	0	0	0	0	0
9915 - Lower Mississippi River Flatwoods	0	0	0	0	0
9916 - West Gulf Coastal Plain Nonriverine Wet Hardwood Flatwoods	0	0	0	0	0

*GP = Great Plains; NE = Northeast; NW = Northwest; SE = Southeast; SW = Southwest; UM = Upper Midwest

More information regarding modeling process: <https://gapanalysis.usgs.gov/species/data/>

Species Habitat Model Report: Least Tern

Sterna antillarum

Citations

- Akers, J. W. 1975. The least tern in Virginia:breeding biology and population distribution. M.S. thesis, William and Mary College, Williamsburg. 77 pp.
- American Ornithologists' Union (AOU). 1983. Check-list of North American Birds, 6th edition. Allen Press, Inc., Lawrence, Kansas. 877 pp.
- Atwood, J. L., and B. W. Massey. 1988. Site fidelity of least terns in California. Condor 90:389-394.
- Bent, A.C. 1921. Life histories of North American gulls and terns. U.S. Natl. Mux. Bull. 113. Washington, D.C.
- Blodgett, B. 1978. The effects of off-road vehicles on least terns and other shore birds. Univ. Massachusetts - Natl. Park Service Report 26:1-79.
- Blus, L. J., and R. M. Prouty. 1979. Organochlorine pollutants and population status of least terns in South Carolina. Wilson Bull. 91:62-71.
- Buckley, P. A., and F. G. Buckley. 1984. Seabirds of the north and middle Atlantic coast of the United States:their status and conservation. Pages 101-133 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Bull, J. 1974. Birds of New York state. Doubleday/Natural History Press, Garden City, New York. Reprint, 1985 (with Supplement, Federation of New York Bird Clubs, 1976), Cornell Univ. Press, Ithaca, New York.
- Burger, J. 1984. Colony stability in least terns. Condor 86:61-67.
- Burger, J. 1988. Social attraction in nesting least terns:effects of numbers, spacing, and pair bonds. Condor 90:575-582.
- Burger, J., and M. Gochfeld. 1990. Nest site selection in least terns (STERNA ANTILLARUM) in New Jersey and New York. Colonial Waterbirds 13:31-40.
- Burroughs, J. R. 1966. A study of the breeding biology of least terns on Nantucket Island. M.S. thesis, Univ. Massachusetts. 87 pp.
- Byrd, M.A., and D.W. Johnston. 1991. Birds. Pages 477-537 in K. Terwilliger, coordinator. Virginia's endangered species:proceedings of a symposium. McDonald and Woodward Publ. Co., Blacksburg, Virginia.
- California Department of Fish and Game. 1990. 1989 annual report on the status of California's state listed threatened and endangered plants and animals. 188 pp.
- Campbell, L. 1995. Endangered and Threatened Animals of Texas:Their Life History and Management. Texas Parks and Wildlife Department, Endangered Resources Branch, Austin, Texas. ix + 129 pp.
- Carvacho, A., et al. 1989. STERNA ANTILLARUM BROWNI en el Golfo de California:observaciones sobre una colonia reproductora en una zona vulnerable al impacto turistico. Southwestern Naturalist 34:124-130.
- Clapp, R. B., and P. A. Buckley. 1984. Status and conservation of seabirds in the southeastern United States. Pages 135-155 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Clapp, R.B., M.K. Klimkiewicz, and J.H. Kennard. 1982. Longevity records of North American birds:Gaviidae through Alcidae. Journal of Field Ornithology 53:81-124.
- Cogswell, H.L. 1977. Water birds of California. Univ. California Press, Berkeley. 399 pp.
- Cowgill, R. W. 1989. Nesting success of least terns on two South Carolina barrier islands in relation to human disturbance. Chat 53:81-87.
- Craig, A. M. 1971. Survey of California least tern nesting sites. California Dept. Fish and Game, Project W54R-4. 55 pp.
- Czaplewski, M. M. 1989. Least terns at Lake McConaughy. Nebraska Bird Rev. 57:95-96.
- Dorr, D. K. 1976. Least tern, STERNA ALBIFRONS, nesting habitat in Maine and its relevance to the Critical Areas Program. Maine Critical Areas Program, Planning Report No. 11.21 pp.
- Downing, R. L. 1980. Survey of interior least tern nesting populations. Am. Birds 34:209-211.
- Ducey, J. 1982. The 1982 least tern and piping plover breeding season on the lower Platte River, Nebraska. Nebraska Bird Rev. 50:68-72.
- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The birder's handbook:a field guide to the natural history of North American birds. Simon and Shuster, Inc., New York. xxx + 785 pp.
- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1992. Birds in jeopardy:the imperiled and extinct birds of the United States and Canada, including Hawaii and Puerto Rico. Stanford University Press, Stanford, California. 259 pp.
- Engstrom, R. T., G. S. Butcher, and J. D. Lowe. 1990. Population trends in the least tern (STERNA ANTILLARUM) from Maine to Virginia:1975-1986. Pages 130-138 in J. R. Sauer and S. Droege, editors. Survey designs and statistical methods for the estimation
- Erwin, R. M. 1978. Population and colony site dynamics in selected Massachusetts seabirds. Proc. 1977 Conf. Colonial Waterbirds Group 1:19-25.
- Faanes, C. A. 1983. Aspects of the nesting ecology of least terns and piping plovers in central Nebraska. Prairie Naturalist 15:145-154.
- Farrand, J., editor. 1983. Audubon Society master guide to birding. Alfred A. Knopf, New York. 3 vols., 1244 pp.
- Figg, D. E. 1993. Missouri Department of Conservation wildlife diversity report, July 1992-June 1993. 75 pp.
- Fisk, E. J. 1975. Least tern:beleaguered, opportunistic, and root nesting. American Birds 29(1):15-16.
- Forbush, E. H. 1925-1929. Birds of Massachusetts and other New England states. 3 vols. Massachusetts Dept. Agric., Boston.
- Gochfeld, M. 1983. Colony site selection by least terns:physical attributes of sites. Colonial Waterbirds 6:205-213.
- Gore, J. A. 1991. Distribution and abundance of nesting least terns and black skimmers in northwest Florida. Florida Field Naturalist 19(3):65-96.
- Gore, J. A., and M. J. Kinnison. 1991. Hatching success in roof and ground colonies of least terns. Condor 93:759-762.
- Grover, P. B., and F. L. Knopf. 1982. Habitat requirements and breeding success of charadriiform birds nesting at Salt Plains National Wildlife Refuge, Oklahoma. J. Field Ornithol. 53:139-148.
- Haddon, P. C., and R. C. Knight. 1983. A guide to little tern conservation. Royal Soc. Protection of Birds. 114 pp.
- Hagan, J.M., III, and D.W. Johnston, editors. 1992. Ecology and conservation of neotropical migrant landbirds. Smithsonian Institution Press, Washington, D.C. xiii + 609 pp.
- Hardy, J. W. 1957. The least tern in the Mississippi Valley. Publ. Mus. Michigan State Univ., Biol. Ser. 1:1-60.
- Harrison, C. 1978. A field guide to the nests, eggs and nestlings of North American birds. Collins, Cleveland, Ohio.
- Hays, M. B. 1980. Breeding biology of the least tern, STERNA ALBIFRONS, on the Gulf Coast of Mississippi. M.S. thesis, Mississippi State Univ. 69 pp.

Species Habitat Model Report: Least Tern

Sterna antillarum

- Herkert, J. R., editor. 1992. Endangered and threatened species of Illinois: status and distribution. Vol. 2: Animals. Illinois Endangered Species Protection Board. iv + 142 pp.
- Hill, L. A., and L. G. Talent. 1990. Effects of capture, handling, banding, and radio-marking on breeding least terns and snowy plovers. J. Field Ornithology 61:310-319.
- Houde, P. 1977. Low productivity of terns on Hicks Island, 1975. Proc. Linn. Soc. 73:49-57.
- Hovis, J. A., and M. S. Robson. 1989. Breeding status and distribution of the least tern in the Florida Keys. Florida Field Nat. 17:61-66.
- Jernigan, L., et al. 1978. Nesting habitats and breeding populations of the least tern colonies in North Carolina. Univ. North Carolina Sea Grant Publ. 39 pp.
- Kaufman K. 1996. Lives of North American Birds. Boston, New York: Houghton Mifflin Company.
- Kotliar, N. B. 1984. Colony site selection and abandonment by least terns in New Jersey. M.S. thesis, Rutgers Univ.
- Kotliar, N. B., and J. Burger. 1984. The use of decoys to attract least terns (STERNA ANTILLARUM) to abandoned colony sites in New Jersey. Colonial Waterbirds 7:134-138.
- Kress, S. W., E. H. Weinstein, and I. C. T. Nisbet. 1983. The status of tern populations in the northeastern United States and adjacent Canada. Colonial Waterbirds 6:84-106.
- Litwin, S. 1983. Long Island least tern and piping plover survey. Seatuck Research Program, Cornell Univ. and New York Dept. Environ. Conservation. 35 pp.
- MacLean, D. C., et al. 1991. Nesting biology, habitat use, and inter-colony movements of the least tern (STERNA ANTILLARUM) on Long Island, N.Y. The Seatuck Research Program in cooperation with the New York State Dept. of Environ. Conserv. 70 pp.
- Massey, B. W. 1971. A breeding study of the California least tern. California Dept. Fish and Game, Wildlife Management Administrative Report, pp. 71-79.
- Massey, B. W. 1974. Breeding biology of the California least tern. Proc. Linn. Soc. New York 72:1-24.
- Massey, B. W. 1976. Vocal differences between American least terns and the European little tern. Auk 93:760-773.
- Massey, B. W. 1981. A least tern makes a right turn. Nat. Hist. 90:61-72.
- Massey, B. W., and J. L. Atwood. 1978. Plumages of the least tern. Bird-banding 49:360-371.
- Massey, B. W., and J. L. Atwood. 1981. Second-wave nesting of the California least tern: age composition and reproductive success. Auk 98:596-605.
- Massey, B. W., K. Keane, and C. Boardman. 1988. Adverse effects of radio transmitters on the behavior of nesting least terns. Condor 90:945-947.
- Matthews, J. R., and C. J. Moseley (editors). 1990. The Official World Wildlife Fund Guide to Endangered Species of North America. Volume 1. Plants, Mammals. xxiii + pp 1-560 + 33 pp. appendix + 6 pp. glossary + 16 pp. index. Volume 2. Birds, Reptiles, Amphibians.
- Minsky, D. 1980. Preventing fox predation at a least tern colony with an electric fence. J. Field Ornithology 51(2):17-18.
- Minsky, D. 1981. The terns of Cape Cod. The Association for the Preservation of Cape Cod, Informational Bull. No. 9. 34 pp.
- Moseley, L. J. 1976. Behavior and communication in the least tern. Ph.D. dissertation, Univ. North Carolina. 164 pp.
- National Geographic Society (NGS). 1983. Field guide to the birds of North America. National Geographic Society, Washington, D.C.
- Sauer, J.R., and S. Droege. 1992. Geographical patterns in population trends of neotropical migrants in North America. Pages 26-42 in J.M. Hagan III and D.W. Johnston, editors. Ecology and conservation of neotropical migrant landbirds. Smithsonian Institution.
- Schulenberg, J., and M. Ptacek. 1984. Status of the interior least tern in Kansas. Am. Birds 38:975-981.
- Scott, S.L., ed. 1983. Field guide to the birds of North America. Washington, D.C.: National Geographic Society. 464p.
- Sibley, C.G., and B.L. Monroe. 1990. Distribution and taxonomy of birds of the world. Yale University Press, New Haven, Connecticut. xxiv + 1111 pp.
- Spendlow, J.A., and S.R. Patton. 1988. National atlas of coastal waterbird colonies in the contiguous United States: 1976-1982. U.S. Fish and Wildlife Service, Biological Report 88(5). x + 326 pp.
- Sprunt, A., IV. 1984. The status and conservation of seabirds of the Bahama Islands. Pages 157-168 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Stiles, F.G., and A.F. Skutch. 1989. A guide to the birds of Costa Rica. Comstock Publ. Associates, Cornell University Press, Ithaca, New York. 511 pp.
- Swickard, D. K. 1974. An evaluation of two least tern nesting sites. California Fish and Game 60:88-90.
- Terres, J.K. 1980. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York.
- Thompson, B. C., et al. 1992. Subspecific status of least tern populations in Texas: North American implications. Wilson Bull. 104:244-262.
- Thompson, B.C. and R.D. Slack. 1982. Physical aspects of colony selection by least terns on the Texas coast. Colonial Waterbirds 5:161-168.
- Thompson, B.C., J.A. Jackson, J. Burger, L.A. Hill, E.M. Kirsch, and J.L. Atwood. 1997. Least tern (Sterna antillarum). In A. Poole and F. Gill, eds., The Birds of North America, No. 290. The Academy of Natural Sciences, Philadelphia and The American Ornithologists' Union, Washington, DC.
- Thompson, M.C. et al. 2011. Birds of Kansas. University Press of Kansas, Lawrence.
- U.S. Fish and Wildlife Service (USFWS). 1990. Endangered and threatened species recovery program: report to Congress. 406 pp.
- U.S. Fish and Wildlife Service (USFWS). 1990. Recovery plan for the interior population of the least tern (STERNA ANTILLARUM). USFWS, Twin Cities, Minnesota. 90 pp.
- U.S. Fish and Wildlife Service. 1980. California least tern recovery plan. 58 pp.
- U.S. Fish and Wildlife Service. 1980. Selected vertebrate endangered species of the seacoast of the United States-- California least tern. FWS/OBS-80/01.20. 8 pp.
- U.S. Fish and Wildlife Service. 1983. Marine birds of the southeastern United States and Gulf of Mexico. Part III. Charadriiformes. Pages 599-635.
- van Halewyn, R., and R. L. Norton. 1984. The status and conservation of seabirds in the Caribbean. Pages 169-222 in Croxall et al., eds. Status and conservation of the world's seabirds. ICBP Tech. Pub. No. 2.
- Whitman, P. L. 1988. Biology and conservation of the endangered interior least tern: a literature review. U.S. Fish and Wildlife Service, Biological Report 88(3). 22 pp.
- Wilbur, S. R. 1974. The literature of the California least tern. U.S. Fish and Wildlife Service Spec. Sci. Rep. Wildl. 175 pp.

Wolk, R. G. 1954. Some preliminary observations on the reproductive behavior of the least tern.

Zickefoose, J. 1985. Least tern/piping plover recovery program. Final report to The Nature Conservancy, Connecticut Chapter. 22 pp.

Ziewitz, J. W., J. G. Sidle, and J. J. Dinan. 1992. Habitat conservation for nesting least terns and piping plovers on the Platte River, Nebraska. *Prairie Naturalist* 24(1):1-20.

Model Parameter Definitions

Land Cover Map Units

Land Cover Data Source — National Gap Land Cover Ver 1.0 (2001) — The ecological systems mapped in the GAP National Land Cover Data were used as ‘map units’ to describe habitat types preferred by species.
<https://doi.org/10.5066/F7959GF5>

Absent (0) — Not utilized by species.

Primary (1) — Utilized by species.

Secondary (2) — Utilized by species if in proximity to Primary map units (see Secondary Map Units below).

Land Cover Limitations

Contiguous Patch — Minimum size (ha) — This parameter is set using the most conservation values explicitly stated in the species literature. Any mapped habitat not meeting the minimum contiguous patch size is eliminated. If applied, this is the last step in habitat modeling.

Edge Type Usage — Ecotone Width (m) — We grouped map units into forested, non-forested, and shrubland/woodland land cover types to identify both Forest/Open ecotones and Woodland/Shrubland. Using this data set, we can define the width and nature of ecotones utilized by species.

Forest Interior Usage — Distance From Edge (m) — Used to limit species to forest interiors or to exclude them from such.

Secondary Map Units — Distance From Primary Map Units (m) — Secondary Map Units identified in the Map Units table (2) are included in a species habitat map if they are within proximity to Primary Map Units (1).

Hydrographic Limitations

Flowing Water — Distance Into/From (m) — Flowing water represents hydrographic features such as streams, rivers, springs, seeps, ditches with moving water, etc.

Open/Standing Water — Distance Into/From (m) — Standing water represents hydrographic features such as lakes, ponds, reservoirs, bays, inlets, estuaries, ocean, ditches with stagnant water, etc.

Wet Vegetation — Distance Into/From (m) — Wet vegetation represents hydrographic features such as swamps, marshes, Carolina bays, etc. This includes a collection of map units representing seasonally or tidally inundated woody and non-woody plants.

Water Salinity — Freshwater Only, Brackish/Salt Water Only, All Water — Water salinity is a major factor when considering habitat conditions for many species. However, the dynamic and complex nature of water systems makes the development of a highly refined and reliable data layer challenging. Therefore, we developed three general categories to include in species habitat models for species requiring water.

Water Velocity — Slow Only, Fast Only, All Types — For some aquatic species, this is an important aspect of their habitat, such as oxygenation levels, presence of invertebrate prey, and amount of sediment within the water column and on streambed substrates. Stream velocity (i.e., stream gradient) was derived from a combination of streams and slopes calculated from a digital elevation model (DEM), which created three categories for stream gradient.

Slow Only — For species that require slow moving or almost stagnant sections of streams or rivers. Typically these are areas where the underlying topography is flat (0 % gradient).

Fast Only — For species that require high velocity sections of streams or rivers. Typically these are areas where the underlying topography is steep. A threshold of > 5 % gradient was used.

All Types — For species that can utilize either fast or slow sections of streams or rivers.

Human Impact Avoidance — High, Medium, Low — Environments dominated by human disturbance such as roads, cities, and the constructed materials that support human habitation have profound effects on species. For most species, this data layer was used to exclude species from a portion of the landscape. However, some species respond favorably to human habitats, therefore this data layer was used in an inclusionary manner.

High — For species that are very intolerant of human disturbance. All portions of the landscape identified as being directly influenced by human disturbance are eliminated from the predicted distribution.

Medium — For species that are moderately intolerant of human disturbance. Only portions of the landscape identified as being highly or moderately influenced by human disturbance are eliminated from the predicted distribution.

Low — For species that are partially intolerant of human disturbance. Only portions of the landscape identified as being highly influenced by human disturbance are eliminated from the predicted distribution.

Elevation Limits — Min/Max (m) — Some species respond to environments directly related to altitudinal variation. Elevation (e.g., DEM) is easily implemented in spatial modeling by limiting the model to the minimum and maximum values explicitly stated in the literature. DEMs are utilized directly and are measured in meters above and below mean sea level.

Hand Modeled — Occasionally, habitat models had to be manipulated outside of the main scripting environment in order to achieve the desired results. If so, notes on additional processing are provided.